

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 1 of 11

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Sodium hexanitrocobaltate(III) a.r.

CAS No: 13600-98-1

EC No: 237-077-7

1.2. Relevant identified uses of the substance or mixture and uses advised against**Use of the substance/mixture**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet**Details of the supplier of the safety data sheet**

Company name: AnalytiChem Services, Unipessoal, Lda

Street: Rua de Júlio Dinis 676 7º

Place: N-4050-320 Porto

Telephone: +351 226002917

E-mail: info@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Internet: www.analytichem.com

Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV

Street: Industriezone "De Arend" 2

Place: B-8210 Zedelgem

Telephone: +32 50 28 83 20

E-mail: info.be@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Responsible Department: AnalytiChem:

EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20

EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200

EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848

UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500

USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378

Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701

Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

+44 20 3807 3798 (CHEMTREC)

1.4. Emergency telephone number:**Further Information**

A registration number is not available for this substance as the substance or its use are exempted from

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 2 of 11

registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Ox. Sol. 2; H272

Carc. 2; H351

Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008****Signal word:** Warning**Pictograms:****Hazard statements**

H272

May intensify fire; oxidiser.

H317

May cause an allergic skin reaction.

H351

Suspected of causing cancer.

Precautionary statements

P280

Wear protective gloves/protective clothing and eye protection/face protection.

P308+P313

IF exposed or concerned: Get medical advice/attention.

P302+P352

IF ON SKIN: Wash with plenty of water and soap.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**Sum formula: $\text{Na}_3[\text{Co}(\text{NO}_2)_6]$

Molecular weight: 403,93 g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
13600-98-1	trisodium hexanitritocobaltate			100 %
	237-077-7			
	Ox. Sol. 2, Carc. 2, Skin Sens. 1; H272 H351 H317			

Full text of H and EUH statements: see section 16.

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 3 of 11

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

No data available

After inhalation

Provide fresh air.

Call a physician immediately.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water.

Remove contact lenses, if present and easy to do. Continue rinsing.

Consult an ophthalmologist.

After ingestion

Rinse mouth immediately and drink plenty of water.

Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Allergic reactions

Gastrointestinal complaints

Blood pressure drop

Methaemoglobin formation

Causes damage to organs. (kidneys, heart, pancreas)

Symptoms of acute cobalt poisoning: Diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure, toxic effects on the kidneys (albuminuria, anuria), heart and pancreas.

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids

Oxidizing

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NOx)

Metal oxide smoke, toxic

5.3. Advice for firefighters

Avoid contact with skin, eyes and clothes.

In case of fire: Wear self-contained breathing apparatus.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 4 of 11

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid dust formation. Do not breathe dust.

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

Avoid contact with skin, eyes and clothes.

Remove persons to safety.

Emergency procedures

Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains.

Prevent spread over a wide area (e.g. by containment or oil barriers).

Collect in closed and suitable containers for disposal.

Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Avoid exposure - obtain special instructions before use.

Read label before use.

Handle and open container with care.

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Avoid dust formation. Do not breathe dust.

Advice on protection against fire and explosion

Keep away from combustible material.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Take off contaminated clothing.

Wash hands before breaks and after work.

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 5 of 11

When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Take off contaminated clothing and wash it before reuse.
Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed and dry.
Keep away from combustible material.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

Take national regulations into account.

Further information on storage conditions

storage temperature: < +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****8.2. Exposure controls****Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Suitable eye protection: goggles.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Take off immediately all contaminated clothing.
Wash hands before breaks and after work.

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 6 of 11

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: dust formation

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	yellow - brown
Odour:	like: Nitric acid
Odour threshold:	No data available
Melting point/freezing point:	220 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	not applicable
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	X
Auto-ignition temperature:	No data available
Decomposition temperature:	not determined
pH-Value (at 20 °C):	~5 (100 g/l)
Viscosity / kinematic:	No data available
Water solubility: (at 20 °C)	720 g/l
Solubility in other solvents	not determined
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	No data available
Relative density:	No data available
Bulk density:	~480 kg/m ³
Relative vapour density:	not determined
Particle characteristics:	No data available

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

not determined

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 7 of 11

Gas: not applicable

Oxidizing properties

The product is: oxidising, Oxidising.

Category 3

Other safety characteristics

Evaporation rate: not determined

Solvent separation test: No data available

Solvent content: No data available

Solid content: 100%

Sublimation point: No data available

Softening point: No data available

Pour point: No data available

Viscosity / dynamic: No data available

Flow time: No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

Possibility of hazardous reactions. oxidising, Oxidising.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Acid

Reducing agent

Combustible substance

Amines

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes****Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

Acute toxicity

Based on available data, the classification criteria are not met.

Irritation and corrosivity

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 8 of 11

Sensitising effects

May cause an allergic skin reaction. (trisodium hexanitritocobaltate)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing cancer. (trisodium hexanitritocobaltate)

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards**Endocrine disrupting properties**

No data available

Other information

No data available

Further information

Allergic reactions

Gastrointestinal complaints

Blood pressure drop

Methaemoglobin formation

Causes damage to organs. (kidneys, heart, pancreas)

Symptoms of acute cobalt poisoning: Diarrhoea, loss of appetite, drop in body temperature, drop in blood pressure, toxic effects on the kidneys (albuminuria, anuria), heart and pancreas.

SECTION 12: Ecological information**12.1. Toxicity**

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 9 of 11

No data available

Further information

Avoid release to the environment.

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Do not mix with other wastes.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information**Land transport (ADR/RID)**

14.1. UN number or ID number:	UN 1479
14.2. UN proper shipping name:	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Classification code:	O2
Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2
Transport category:	2
Hazard No:	50
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 1479
14.2. UN proper shipping name:	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Classification code:	O2
Special Provisions:	274
Limited quantity:	1 kg
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 1479
14.2. UN proper shipping name:	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Special Provisions:	274, 900
Limited quantity:	1 kg
Excepted quantity:	E2

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 10 of 11

EmS: F-A, S-Q

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 1479
14.2. UN proper shipping name:	OXIDIZING SOLID, N.O.S. (trisodium hexanitritocobaltate)
14.3. Transport hazard class(es):	5.1
14.4. Packing group:	II
Hazard label:	5.1
Special Provisions:	A3 A803
Limited quantity Passenger:	2.5 kg
Passenger LQ:	Y544
Excepted quantity:	E2
IATA-packing instructions - Passenger:	558
IATA-max. quantity - Passenger:	5 kg
IATA-packing instructions - Cargo:	562
IATA-max. quantity - Cargo:	25 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Oxidising substances.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Information according to Directive 2012/18/EU (SEVESO III): P8 OXIDISING LIQUIDS AND SOLIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 2 - obviously hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,5,6,8,9,10,11,12,14,15.

Sodium hexanitrocobaltate(III) a.r.

Revision: 11.06.2024

Product code: AC14.01071

Page 11 of 11

Abbreviations and acronyms

Ox. Sol. 2: Oxidising solids, hazard category 2

Ox. Sol. 3: Oxidising solids, hazard category 3

Skin Sens. 1: Skin sensitisation, hazard category 1

Carc. 2: Carcinogenicity, hazard category 2

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

H272 May intensify fire; oxidiser.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users